

**ABSTRACT**

A self-sealing valve comprises a valve housing having a fluid conduit, a valve seat, a flexible diaphragm and a support member. The valve housing is configured to pass fluid through the fluid conduit. The flexible diaphragm provides a self-seal of the fluid conduit,  
5 and comprises an area larger than an area of the fluid conduit and a periphery. The support member is configured to retain a portion of a flexible diaphragm. The support member and flexible diaphragm are configured to position the flexible diaphragm against the valve seat to seal the fluid conduit in a closed position of the self-sealing valve, and to facilitate movement of at least a part of the periphery of the flexible diaphragm in a first direction  
10 away from the valve seat to an open position.